

I L I INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)



Applicant's or agent's file reference 03PCT389	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.		
International application No.	International filing date ('day/month/year)	(Earliest) Priority Date (day/month/year)	
PCT/KR03/01782	01 SEPTEMBER 200	3 (01.09.2003)	31 AUGUST 2002 (31.08.2002)	
Applicant				
KIM, Jung Man		·		
This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau. This international search report consists of a total of 3 sheets.				
It is also accompanied by a cop				
Basis of the report With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. The international search was carried out on the basis of a translation of the international application furnished to this				
Authority (Rule 23.1(b)). b. With regard to any nucleotide and, was carried out on the basis of the s	Authority (Rule 23.1(b)). b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search			
contained in the international a				
filed together with the internat	ional application in compu	iter readable form.		
furnished subsequently to this	Authority in written form.		*	
furnished subsequently to this				
the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.				
the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.				
2. Certain claims were found ur	searchable (See Box I).			
3. Unity of invention is lacking ((See Box II).			
4. With regard to the title,			•	
X the text is approved as submitte	ed by the applicant.			
the text has been established by	this Authority to read as	follows:		
5. With regard to the abstract,				
the text is approved as submitted				
the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.				
The figure of the drawing to be pub as suggested by the applicant. bccause the applicant failed to		Figure No.	None of the figures	
because this figure better chara	cterizes the invention.			

CLASSIFICATION OF SUBJECT MATTER

IPC7 D21J 3/00, D21J 1/08, D21H 17/74, D21H 17/03, B60H 3/06

According to International Patent Classification (IPC) or to both national classification and IPC

FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 D21J, D21H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean Patents and applications for inventions since 1975 Korean Utility models and applications for Utility models since 1975 Japanese Utility models and applications for Utility models since 1975.

Electronic data base consulted during the intermational search (name of data base and, where practicable, search terms used) KIPASS, PAJ

DOCUMENTS CONSIDERED TO BE RELEVANT

Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
KR 10-249570 B (CONAD CO., LTD.) 27 DECEMBER 1999	1-7
KR 10-178462 B (KIM, YANG GWON) 23 NOVEMBER 1998	1-7
US 6,152,979 A (DONALDSON CO INC) 28 NOVEMBER 2000	2
JP 61-245817 A (YAMATO SEISAKUSHO KK) 01 NOVEMBER 1986 See claims	1-7
JP 2-298307 A (TOYO ROKI SEIZO KK) 10 DECEMBER 1990 See abstract and claims	1-7
	See abstract, claims 1-3, Figure KR 10-178462 B (KIM, YANG GWON) 23 NOVEMBER 1998 See claims 1-6, Figure US 6,152,979 A (DONALDSON CO INC) 28 NOVEMBER 2000 See abstract JP 61-245817 A (YAMATO SEISAKUSHO KK) 01 NOVEMBER 1986 See claims JP 2-298307 A (TOYO ROKI SEIZO KK) 10 DECEMBER 1990

	Further documents are listed in the continuation of Box C.
*	Special categories of cited documents:

- "A" document defining the general state of the art which is not considered
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- special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other
- means "P" document published prior to the international filing date but later
- than the priority date claimed

Date of the actual completion of the international search

15 DECEMBER 2003 (15.12.2003)

Name and mailing address of the ISA/KR Korean Intellectual Property Office 920 Dunsan-dong, Sco-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

See patent family annex.

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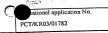
Authorized officer

HA. SEUNG KYU

Telephone No. 82-42-481-8147



INTERNATIO SEARCH REPORT Information on Patent family members



Information our patent failing memora-			
Publication date	Patent family member(s)	Publication date	
25-01-1999	NONE		
23-11-1998	NONE		
28-11-2000	W0-A1-200025894 AU-A5-200012084	26-10-1999 26-10-1999	
01-11-1986	NONE		
10-12-1990	NONE		
	Publication date 25-01-1999 23-11-1998 28-11-2000	Publication date Patent family member(s) 25-01-1999 NONE 23-11-1998 NONE 28-11-2000 W0-A1-200025894 AU-A5-200012084 01-11-1986 NONE	

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IPC7 D21J 3/00, D21J 1/08, D21H 17/74, D21H 17/03, B60H 3/06

According to International Patent Classification (IPC) or to both national classification and IPC

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	KR 10-249570 B (CONAD CO., LTD.) 27 DECEMBER 1999	1-7
	See abstract, claims 1-3, Figure	1-7
Α	KR 10-178462 B (KIM, YANG GWON) 23 NOVEMBER 1998 See claims 1-6, Figure	
Α	US 6,152,979 A (DONALDSON CO INC) 28 NOVEMBER 2000	2
	See abstract JP 61-245817 A (YAMATO SEISAKUSHO KK) 01 NOVEMBER 1986	1-7
Α	See claims	
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	See abstract and claims	

П	Further	documents are listed in the continuation of Box C.
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- See patent family annex.
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- earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
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- document published prior to the international filing date but later than the priority date claimed
- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
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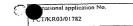
Authorized officer HA, SEUNG KYU

Telephone No. 82-42-481-8147



INTERNAT AL SEARCH REPORT

Information a ent family members



Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 10-249570 B	25-01-1999	NONE	
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US 6152979 A	28-11-2000	W0-A1-200025894 AU-A5-200012084	26-10-1999 26-10-1999
JP 61-245817 A	01-11-1986	NONE	
JP 2-298307 A	10-12-1990	NONE \	